REMARKS

The Applicants do not believe that examination of the foregoing amendment will result in the introduction of new matter into the present application for invention. Therefore, the Applicants, respectfully, request that the above amendment be entered in and that the claims to the present application, kindly, be reconsidered.

The Office Action dated April 29, 2005 has been received and considered by the Applicants. Claims 1-23 are pending in the present application for invention. Claims 1-23 are rejected by the April 29, 2005 Office Action.

The Office Action rejects Claims 1-26 and 28 under the provisions of 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,353,678 issued n the name of Guo et al. (hereinafter referred to as Guo et al.). The MPEP at §2131 states that a "claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Regarding Claims 1, 5 and 8, the Examiner asserts that Guo et al. disclose a system for computing optical flow between images within an image sequence at column 1, lines 15-20. The Examiner's position is that Fig, 1 of Guo et al. discloses an image processor processing the image sequence, that Fig. 4 discloses the image processor deriving epipolar geometry for the images from point matches between the images. The Examiner's position is that column 11, lines 5-17 of Guo et al. disclose the image processor computing a component of the optical flow using a median. The Applicant, respectfully, points out that Guo et al. disclose at column 11, lines 5-17 calculating a median error for each epipolar geometry. The rejected claims define subject matter for the image processor computing optical flow for each pixel within at least one of the images under a constraint derived from the epipolar geometry by computing a component of the optical flow using a median.

The Applicant, respectfully, points that optical flow is the velocity field that warps one image into another (see page 1, lines 16-18 of the specification to the present applicant for invention). The rejected claims define subject matter for the image

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processor computing optical flow for each pixel within at least one of the images under a constraint derived from the epipolar geometry by computing a component of the optical flow using a median. Guo et al. at column 11, lines 5-17 teach steps that are used for computing epipolar geometries for successive image pairs including calculating and selecting the epipolar geometry having a minimum median error as the 2D view geometry of the scene. There is no disclosure or suggestion for computing optical flow for each pixel within at least one of the images under a constraint derived from the epipolar geometry by computing a component of the optical flow using a median within Guo et al. either column 11, lines 5-17 or anywhere within that reference. The Applicant hereby asserts that the rejection contained in the Office Action has ignored various terms within the rejected claims. For example, optical flow as used by the rejected claims has not been addressed by the rejection much less the image processor computing the optical flow for each pixel within at least one of the images. Therefore, this rejection is, respectfully, traversed.

Claims 2, 9 and 16 depend from and further narrow and define the claims from which they depend which have previously discussed as being allowable. Therefore, Claims 2, 9 and 16 are also believed to be allowable.

Regarding Claims 3, 10 and 17, the Examiner alleges that Guo et al. at column 9, lines 5-10 teach that the image processor, in computing optical flow for each pixel within at least one of the images, employs a constraint derived from a fundamental matrix between the images. The Applicant, respectfully, points out that Guo et al. at column 9, lines 5-10 discuss that two fundamental matrices being used to determine if the epipoles are a good solution. There is no disclosure or suggestion within Guo et al. for computing optical flow for each pixel within at least one of the images by employing a constraint derived from a fundamental matrix between the images. Therefore, this rejection is traversed.

Regarding Claims 4, 11 and 18, the Examiner alleges that Guo et al. at column 6, lines 45-67 teach that the image processor utilizes the constraint derived from the epipolar geometry in combination with least squares minimization to compute optical flow for each pixel within at least one of the images. The Applicant disagrees with these assertion contained in the Office

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Action. There is no disclosure or suggestion within Guo et al. for the image processor utilizing a constraint derived from the epipolar geometry in combination with least squares minimization to compute optical flow for each pixel within at least one of the images. Therefore, this rejection is traversed.

Regarding Claims 5, 12 and 19, the Examiner alleges that Guo et al. in Figures 3 and 4 teach that the image processor utilizes the constraint derived from the epipolar geometry in combination with robust statistical methods to compute optical flow for each pixel within at least one of the images. The Applicant disagrees with these contentions contained in the Office Action. There is no disclosure or suggestion within Guo et al. that the image processor utilizes the constraint derived from the epipolar geometry in combination with robust statistical methods to compute optical flow for **each pixel** within at least one of the images. Therefore, this rejection is traversed.

Regarding Claims 6, 13 and 20-23, the Examiner refers to column 6, lines 12-55. of Guo et al. The Applicant, respectfully, points out that the examiner does not indicate the specific language that allegedly teaches the subject matter defined by Claims 6, 13 and 20-23. The Applicant, respectfully, points out that there is no disclosure or suggestion within Guo et al. for an image processor that optical flow for each pixel within at least one of the images using known spatio-temporal derivatives of image intensity at each pixel within the at least one image, and derivations from a fundamental matrix between the images. Moreover, there is no disclosure or suggestion within Guo et al. for computing optical flow for each pixel within at least one of the images under a constraint derived from the epipolar geometry by computing optical flow u, v for each pixel within at least one of the images from $I_x u + I_y v + I_t = 0$, where I_x, I_y and I_t are known spatio-temporal derivatives of image intensity at each pixel within the at least one image, and $a_{x,y} u + b_{x,y} v + c_{x,y} = 0$, where $a_{x,y}$, $b_{x,y}$ and $c_{x,y}$ are derived from a fundamental matrix F between the images. Therefore, this rejection is traversed.

Claims 7 and 14 depend from and further narrow and define the claims from which they depend that have previously discussed as being allowable. Therefore, Claims 7 and 14 are also believed to be allowable.

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Applicant is not aware of any additional patents, publications, or other information not previously submitted to the Patent and Trademark Office which would be required under 37 C.F.R. 1.99.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.

Respectfully submitted,

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